HEALTH AND STRESS

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The American Institute of Stress

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HOW TO PREVENT AND DEAL WITH DEADLINE STRESSES

KEY WORDS: deadlines, time management, stress and impotency, stress and healing, chronotherapy and cancer, magnesium, phototherapy, lasers," super aspirin"

The most effective way to deal with problems is to try to prevent them, rather than finding ways to cope with the stresses they create. The best way to keep from being faced with a stressful deadline, is to make sure that you don't create it by poor planning, or taking on too much. On the other hand, emergency situations do arise, or your boss may suddenly decide that an assignment must be completed on very short notice. If you have no control over the situation and deadlines are imposed that you can't avoid or anticipate, then you have to learn how to manage your time more efficiently in order to meet them.

That's not always easy, because it's hard to change ingrained habits. In addition, work, family, and social obligations, increasingly take up more and more time. Many of these demands may be unpredictable, and can throw a monkey wrench into the best planned schedules. Enhanced communication capabilities provided by cellular phones, fax machines, e-mail and other Internet services have resulted in an information overload. It's often difficult to complete an important work assignment, without the gnawing feeling that you may have omitted something significant, simply because so much information is so readily available. However, trying to sift through everything can take away precious hours, unless you learn how to manage your time more efficiently.

Some people are much better at this than others. Many have learned from experience what pitfalls to avoid, and are more conservative when planning ahead., In order to provide for unexpected glitches, they are at the airport one or two hours ahead of departure. Type A's, who can't stand to waste time by waiting around, and others who tend to be risk takers, usually arrive at the last minute. All believe that they are using their time most efficiently, and can argue persuasively to support their actions. Risk takers point out that they can cram in an extra hour of work, flights are often delayed, the likelihood of being delayed is minimal since this is not the rush hour, etc. Conservative types contend that it's better to be safe than sorry, and it is impossible to rule out a time consuming traffic jam because of construction

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ALSO INCLUDED IN THIS ISSUE

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or an accident at any time of day. Those who utilize their time most efficiently, incorporate the advantages of both approaches. They call ahead to see if the departure is still on schedule, and bring along documents they need to study, or assignments to work on while waiting, thus avoiding the stress of uncertainty, and guilt about wasting time.

How can you tell whether you are good at managing your time? Poor time managers tend to have certain common characteristics, such as:

- Being easily distracted
- Usually seeming to be in a hurry
- Frequently being late for appointments
- An increased tendency towards irritability and frustration
- Finding it difficult to set goals that can realistically be achieved on time
- Not being able to say NO to any requests that you know you could do if you had enough time
- Difficulty in making decisions, or vacillating back and forth between possible options
- A tendency to procrastinate, or to put things off until the last minute
- The feeling that you need to do everything yourself, even though some assignments could readily be largely fulfilled by others

If several of the above traits apply to you, there are some steps you can take to reduce the stress of deadlines. The most important is learning how to plan ahead properly. In order to accomplish this, you need to have a clear idea about what you want to achieve in both your professional and personal life. You should also decide on whether these goals are meaningful, and which are the most important. Then, keep track of what you do each hour of the day, by writing down how much time you devote to work assignments, phone conversations, studying, shopping, TV, exercise, social obligations, personal needs and desires, etc. In that way, you can analyze the appropriateness and importance of each of these with respect to how likely they are to help you achieve your aims. Obviously, most of us believe we are spending our time correctly, otherwise we would be doing something else. It is only in retrospect that it becomes apparent that another course of action would have been preferable.

To avoid such glitches, **set realistic goals** for the day, week, and month. Make a list of all the things you know you have to do and **prioritize** them. Then, separate them into those that must be done today, and others that can wait until tomorrow or later on. Make a **schedule** of where in your day you intend to do certain tasks, and stick to it. Some people tend to work more efficiently during certain hours, so schedule your most important jobs for this period. **Limit interruptions** by having your telephone calls screened, so that you take only those that are essential. Batch all the others so they can be responded to at some time that is more convenient, or see if someone else can probably supply the needed information. Otherwise you may get caught up in something else that consumes time, and is not consistent with your goals for that day. **Avoid distractions** that may be intriguing or entertaining, but likewise have you going off in tangents, rather than **staying on course**.

Your self esteem and quality of life is apt to be much better if you accomplish a few tasks very well, rather than getting involved in a little of everything that comes your way. One time management expert explains that we derive 80% of our rewards from only 20% of what we do. You can be more productive and much more fulfilled, if you learn to identify

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and engage in those things that provide the greatest rewards. This applies to many daily time consuming activities, like reading newspapers and magazines, or going through the mail. For example, it's likely that only 20% of the content of newspapers and periodicals is likely to be of real interest or value to you, so simply skim the rest, rather than inspecting every item. Conversely, 80% of the mail you get is obviously junk, and you're likely to be better off by filing it in the trash can, instead of letting your curiosity get you sidetracked.

Write down your "To Do" lists the night before. **Break up complex and troublesome tasks into little ones** that others might be able to do, and set reasonable deadlines for them. **Learn to delegate responsibilities,** and avoid the assumption or feeling that you are the only one that can get the job done. **Establish a finishing as well as starting time for your appointments,** and be sure to put both of these in your book, and stick to it. If the imposed deadline for an assignment you have been given seems unrealistic, try to explain why this would be difficult in a polite, but firm fashion. Don't automatically assume that somehow you will find the time to squeeze it in.

More often than not, deadline stress is self imposed. That's particularly true for Type A individuals who tend to put things off until the last minute. Some people who know on Monday that a certain task is due at the end of the week, start on it as soon as possible, so that it can be completed by Thursday, and they have a cushion of time to fall back on. Others put off a writing or studying assignment until the day before, because they feel they work better under time pressure. For certain individuals, this may be quite true, since the rush of adrenaline and stimulation of the sympathetic nervous system may help them do things faster, and sometimes better. Last minute cramming for exams is often enhanced by stimulants like caffeine and nicotine. That's why older movies often show reporters who are trying to beat a deadline with a scoop on a fast breaking story, pecking away at their typewriters, with a cigarette dangling from their lip, and a cup of coffee and an ashtray filled with butts nearby.

Increased stress does increase productivity—up to a point, but this differs for each of us. It's very much like the tension or stress on a violin string. Not enough causes a harsh, raspy sound, and too much produces a shrill irritating shriek, or snaps the string. However, just the right amount of stress can create a beautiful tone. Similarly, we all have to find the optimal amount of stress that allows us to make pleasant music in our daily lives.

Stress is difficult for scientists to define, since it differs for each of us. Things that are very distressful for some individuals, provide an exhilarating pleasure for others, or seemingly have little significance in either direction. That can be readily illustrated by observing the varied reactions of passengers on a steep roller coaster ride. Some can't wait for the ride in the torture chamber to end, but others race to get on the very next ride, and a few seem to have an air of nonchalance that borders on boredom. So, was the roller coaster ride stressful? What accounted for these very differing reactions, was the sense of control the individual felt over the event. Nobody actually had any more or less control, but their perceptions and expectations were quite different. Although you can't define stress because it is such a subjective phenomenon, all of our clinical and animal research confirms that the feeling of having little control is always distressful. That's what stress is all about. Certain jobs, people, or deadlines become stressful if they cause problems that seem to be beyond your control. As in the roller coaster ride, that may be due to faulty perceptions you can learn to change. Similarly, we also often establish unrealistic deadlines for projects because of faulty perceptions about time.

There are 24 hours in the day for everyone. Some people are somehow able to get all their work done, and still have time to enjoy themselves in unrelated activities. Others never seem to have enough time, and could clearly benefit greatly from learning time management skills. Paradoxically, they are the ones least likely to pursue this, since they usually feel that this would put them further behind. If you're so pressed that you believe you don't have enough time to learn how to get yourself organized, that, in itself, sends a signal that you have a significant time management problem.

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Just as stress differs for each of us, no stress reduction strategy works for everyone. Jogging and meditation are great for some, but can actually prove stressful when arbitrarily imposed on others. They are also apt to increase deadline stress, if you feel you are wasting valuable time that should be devoted to getting the job done. Most of these and other techniques are designed to reduce annoying emotional and physical responses to stress. As indicated initially, it makes much more sense to try to prevent such problems, rather than finding ways to cope with them. The key to prevention, is making sure you are not creating deadline problems. This often results from taking on too much, improper planning, failure to establish and stick to a schedule that correctly identifies priorities, faulty perceptions, and permitting frequent interruptions and distractions. All of these can be corrected by learning and practicing proven ways to avoid wasting precious hours you can never recall. For many, taking the time to do this may prove to be the most profitable investment you can ever make in this priceless commodity, and it will be repaid thousands of times over. You can replenish money, personal articles, and even health you have lost, but once time has passed, it can never be replaced. The best way to make up for this, is to learn how to manage your future supply more efficiently. This will markedly improve your quality of life by teaching you how to become more productive and less self-destructive.

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Dost thou love life, then do not squander time, for that's the stuff life is made of.
Benjamin Franklin

Half our life is spent trying to find something to do with the time we have rushed through life trying to save.
Will Rogers

I recommend to you to take care of the minutes; for hours will take care of themselves.
Lord Chesterfield

More On Stress And Impotency

Problems with sexual performance increase in men as they grow older, presumably due to diminished blood supply to the penis. Erectile function can also be seriously impaired in certain neurologic disorders, and may be an early manifestation of diabetic neuropathy. As with other organs and structures in the body, the old axiom "use it or lose it" seems to apply, particularly in the so-called "widower syndrome", where lack of use tends to intensify the problem. In many instances, the problem appears to be psychogenic, and new diagnostic tests have made it possible to zero in on this diagnosis. Men normally have one or two nocturnal erections, including very senior citizens, and these can readily be identified and measured by simple monitoring approaches. It is believed that psychological causes of erectile dysfunction can be assumed in patients who exhibit nocturnal erections, but are unable to perform while they are awake.

Another procedure that can allegedly differentiate between emotional and organic causes of erectile dysfunction is the response to the injection of smooth muscle relaxants such as papaverine and prostaglandin E into the penis. These cause dilatation of local blood vessels that produce a sustained erection, and lack of this following injection, suggests that there may be some physical, rather than emotional problem. In addition to being a diagnostic aid, such injections have therapeutic value, and are increasingly being used in clinical practice. One would think, therefore, that impotent patients who showed that they had completely normal nocturnal erection patterns, would also respond favorably to the injection procedure, since their problem was much more likely to be mental than physical.

However, according to a recent report, 40% of those tested failed to show this type of concordance. There may be several explanations for this. One possibility is that the anticipatory fear and anxiety associated with receiving a possible painful injection into the penis could cause an increase in stress related hormones like norepinephrine. This could cause constriction of blood vessels in this part of the body, and counteract any of the relaxing effects of the medication.

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To examine this, 59 men with erectile dysfunction were monitored for nocturnal erections for two nights. Prostaglandin E was injected on the second morning, and measurements were made of various hormones associated with increased stress levels. Men who had normal nocturnal erections but a poor response to the injection, were viewed as being highly inhibited, compared to those showing a good response. In addition to the hormonal measurements, stress levels were also rated by scores on standard trait and state anxiety scales. The researchers found that those patients who fell into the high inhibition group, also showed increased levels of anxiety on the rating scales, and had higher cortisol levels, confirming that they were experiencing more stress. However, their norepinephrine measurements were actually lower, indicating that the diminished response to the injection was due to other causes.

The observation that the highly inhibited group had increased stress levels suggests that failure to respond to penile injections of vasorelaxing substances may not always indicate organic disease. It also reinforces the clinical experience that stress reduction measures may be very effective in treating many patients with psychogenic impotence. Stress can cause impotence, and not being able to obtain an erection can be very stressful, setting up a vicious, self-perpetuating cycle. As the old adage goes, the difference between fear and panic, is that fear is the first time you can't perform twice in a row, and panic is the second time you can't perform once. Patients often find that once they become convinced that the injection will always work, their stress is relieved and they may no longer need it for every occasion.

Various types of prostheses, pumps and injections have now been largely replaced by the insertion of medication into the urethra, which is less painful and embarrasing. However, sildanefil (Viagra) a new pill, promises to make all of these obsolete. It produces an erection within 20 minutes, and may be available by April 1998.

Psychosomatic Medicine-July/August, 1995
Reuter's Health News, October 15, 1997
Associated Press, October 28, 1997

Stress Hinders Healing

"Time heals all wounds" - but it may take longer if you're under stress. A variety of studies have shown that chronic emotional stress can suppress immune system components responsible for resistance to infection. A new report indicates that it can also interfere with the healing process. In recent years, there has been increased interest in the adverse health effects of stress for those responsible for providing constant care to individuals with terminal or hopeless disorders, like cancer, AIDS, and Alzheimer's disease. This is particularly true if they are very caring persons responsible for the well being of relatives or close friends. Such individuals often report being worried, worn out, and angry. These feelings are magnified when there is great uncertainty about the long term outcome, or whether everything possible is being done, and there is nobody to answer these questions, or assist them with their own needs. Family members caring for relatives with Alzheimer's disease are particularly prone to experience this constellation of problems.

It has previously been reported that there are significant differences in vaccination responses in chronic care givers compared to matched controls, suggesting that they have impaired immune system responsiveness. To explore this further, researchers studied 13 females who had been providing continual care for a demented husband or mother suffering from Alzheimer's disease. All were in their early sixties, and averaged 6.7 hrs. of daily care for a mean of 7.8 years. They were compared with 13 controls carefully matched for age and social status. Both groups underwent a standardized 3.5 millimeter punch biopsy to remove a small, pea-sized circle of skin from the inner arm below the elbow. Stress levels were assessed, and blood samples to measure certain aspects of immune system competency were also evaluated prior to the biopsy. The healing process was documented by repeated detailed photographs of the wound, and noting the nature of the response to the administration of hydrogen peroxide. The criterion for complete healing was the absence of foaming when hydrogen peroxide was applied, as well as the physical appearance and characteristics of the wound.

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It was found that wound healing took significantly longer in caregivers (average 48.7 days) than controls (average 39.3 days). As might be expected, the caregiver group reported much higher stress levels than the controls. The blood samples also revealed that white cells from caregivers produced significantly lower levels of interleukin-IB following stimulation. This is an immune system component that is produced in response to injury to stimulate the healing process, although it is not certain that this explains the impressive nine day delay it took for the caregivers' wounds to heal. It should also be noted that the slower healing occurred in this group despite the fact that more of the controls smoked and were not married, two important factors that adversely affect immune system function. There was little difference between the two groups with respect to other possible influences, such as exercise habits or alcohol consumption.

In addition to diminished reaction to vaccination procedures, prior studies have also reported much poorer responses to hypersensitive skin testing procedures in spouses caring for Alzheimer's disease patients. At least 50% of the caregivers exhibited no response to such stimulation, whereas only 12% of controls were non-responders. This suggests that a wide range of immune system disturbances can result from stress. They include not only diminished resistance to infection, but impairment of processes important to stimulate healing and reactions to a variety of stimuli. These findings could have important implications for wound healing and recovery following surgery and major trauma.

Lancet-November 4, 1995
ABNFJ-May-June, 1995

Chronotherapy For Cancer

Laboratory studies on human cancer cell cultures have shown wide swings in the daily production of enzymes that are affected by several widely used anti cancer drugs. It is therefore likely that the toxic and therapeutic effects of chemotherapy could vary, depending upon the time of the day they are administered. To explore this, researchers studied over 200 patients with colon cancer that had metastasized to other parts of the body. Half received conventional constant drip infusions of chemotherapy, while others were given these same drugs at specific times designed to coincide with rhythms that would make them more effective and less toxic. This latter chronotherapy group had significantly fewer side effects, including inflammation of the mouth (6 times less), severe diarrhea (2 times less), and had no hair loss, in contrast to 5% of the constant infusion group, who complained of this. There was less lowering of white cells that are important in resisting bacterial infection, one fifth the erosion of the lining of the gastrointestinal tract, and half the incidence of peripheral neuropathy symptoms such as numbness and pain in the fingers and feet. In addition to being safer, chronotherapy significantly prolonged the time period during which treatment remained effective, (6.4 compared to 4.9 months), and more patients were able to undergo surgery for previously unresectable cancers. Twenty-two percent of this group had a "complete response" to chemotherapy and surgery, compared to only 14% of those who received constant infusion. X-rays following treatment showed an overall 29% response to therapy, which was better than results reported in other studies. However, the results in the chronotherapy group were so superior (51%), that the study was halted prematurely for ethical reasons, and one fourth of the constant infusion rate group who had failed to improve, were placed on the chronotherapy regimen.

Lancet, September 5, 1997, 350: 681-686

Magnesium, Migraine, Cardiovascular Disease, And Diabetes

Some elements, like calcium and magnesium, are active only when they are in an ionizable form, and blood tests may not reveal a functional deficiency. The muscle spasms and contractions of tetany are due to a deficiency of ionizable calcium, and occur when blood calcium is low. But they can also occur during hyperventilation, when blood calcium levels are normal, but the ionizable form is reduced because more calcium becomes bound to protein and is not available.*(Continued on page 7)*

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Serum magnesium has been found to be low in some patients with migraine. This could increase affinity for serotonin receptor sites in arteries in the brain, causing vasoconstriction, and a cascade of reactions that result in headache. In other migraine sufferers, although blood magnesium levels may be normal, it is believed that there may be a deficiency of ionized magnesium, which produces the same effect on these or other relevant receptors.

To test this hypothesis, ionized magnesium was measured in 40 migraineurs, and low levels were confirmed in all, even when routine blood magnesium assay was normal. Thirty-five of these experienced complete relief of head pain when they were given intravenous magnesium within 15 minutes after the onset of headache. While these findings are exciting, their practical application may be a long way off. Laboratory tests for ionizable magnesium are not widely available, and only injections of magnesium seem to be effective. Oral preparations are not absorbed well into the blood stream, and dietary supplementation would be of little value. Migraine is associated with a higher incidence of depression, bipolar disease, panic disorder and epilepsy. It has been found that some drugs used to treat these disorders, including anticonvulsants and antidepressants, may also provide relief for migraine patients, possibly because they increase the sensitivity of blood vessel receptorsto magnesium ions. Intravenous magnesium can also relieve other types of headache.

Magnesium deficiency increases stress induced cardiovascular damage, including hypertension, stroke, myocardial infarction, rhythm disturbances, and sudden death. Low magnesium also seems to be associated with increased risk of diabetes. One study found a reduction of magnesium in heart muscle in patients who died from heart attacks, but not other forms of heart disease. There was no difference in the magnesium content of skeletal muscle. Conversely, the administration of magnesium protects against the cardiac damage caused by stress related hormones like adrenaline. In Finland, the incidence of coronary heart disease is lowest in those areas with the highest drinking water concentrations of magnesium.

Cephalalgia, Oct. 1996, Med Hypotheses, Dec. 1996
Headache, March, 1996

New Hope For Clogged Arteries

It is estimated that approximately 40% of patients who undergo balloon angioplasty for obstruction of leg arteries have a recurrence of atherosclerotic occlusion within 12 months. Several new treatments to prevent this are on the horizon. Photodynamic therapy, which is also known as photoangioplasty, consists of injecting a chemical compound that accumulates at the obstructed area. A laser is then threaded by catheter into the clogged vessel to this precise location, and when switched on, it activates the photosensitive chemical to manufacture oxygen free radicals that dissolve and break up the plaque, but do not harm healthy tissue. An experimental study consisting of a three hour treatment, once a week for four weeks is underway at Stanford University, to see if patients who suffer from intermittent leg pain when walking, or persistent pain and ulcerations that surgery can't help might also be benefited.

In another approach, a special catheter is advanced through the vessel to the site of the recent blockage, where it delivers a tiny dose of radiation. Preliminary results in an FDA approved Miami pilot study showed significant improvement in blood flow, without evidence of any harmful side effects. More extensive trials are now being implemented in more than fifteen medical centers around the country.

Recurrent stenosis is also a problem following cardiac bypass surgery. Aspirin helps prevent clots, but abciximab, which has been dubbed "super aspirin" is far superior. Giving super aspirin prior to angioplasty lowered by almost 20%, risk of death, heart attack, and the need for repeat surgery after one year, and significantly reduced angina in all patients. Since the price is $1,350 per dose not covered by insurance, it is currently being administered primarily to high risk patients. Clopidogrel (Plavix) was just approved to prevent coronaries and strokes, and may be up to 1.5 times more effective than aspirin in this regard, and other clot busters are in the pipeline.

JAMA, August 13, 1997, PR Newswire, August 13, 1997, Business Wire, August 14, 1997, New York Times, Oct. 28, 1997

BOOK REVIEW

Job Stress, Humphrey, JH, Allyn and Bacon, Needham Heights, 1998, 111pgs. $18.95

As the author points out in the preface to this pithy volume, "Innumerable authoritative sources have proclaimed that job stress is now the nation's leading adult health problem." One third of the workforce is significantly affected, and in addition to the emotional and physical health problems incurred, the cost to employers is estimated to be several hundred billions of dollars annually. Nor is this problem limited to the U.S., as evidenced by the International Labor Organization's characterization of job stress as a "global epidemic". Their recent comprehensive survey confirmed consistently high and increasing levels of job stress in numerous occupations all over the world. This book explores the various sources of job stress, and more importantly, what steps can be taken to prevent and deal with this growing menace.

The first three chapters attempt to clear up the confusion that exists in terminology dealing with stress, the various theories proposed concerning causes, effects and classifications of different types of stress, and how this applies to the workplace. The next three are devoted to more specific aspects of job stress in the corporate sector, certain professions, blue collar workers, and the particular problems faced by working women. The final three chapters address how your work activities can affect your emotional health, and how you can learn to develop lifestyle habits and coping skills to reduce your vulnerability to job stress. Various stress reduction strategies discussed include the "Relaxation Response", progressive muscular relaxation, meditative techniques, and biofeedback.

Sections deal with such important issues as how to measure job stress, and how to implement a stress reduction program that is appropriate and cost effective. Specific sources of job stress that are the employer's responsibility are emphasized, including faulty management styles, lack of adequate equipment and facilities, as well as ergonomic factors that need to be addressed. The role of technostress, and the importance of time management is also emphasized. Of particular interest is the discussion of the problem of "bad bosses", a topic that is often overlooked in books and articles dealing with this subject. Particular attention is devoted to health care providers,(doctors, nurses, dentists) and other professionals, such as teachers, and lawyers, all of whom have different types of stresses. The discussion of job stress in women addresses the persistent problem of ingrained gender differences that contribute to inequalities in wages and opportunities for advancement, and the difficulties in dealing with covert sexual harassment in a male dominated work environment. The increase in litigation and workers' compensation claims for job stress, especially repetitive stress injuries such as carpal tunnel syndrome, are also reviewed.

It is obviously impossible to cover all the above topics in a work of this size. However, this book does provide a concise overview of the major problems, as well as current references for those who wish additional information on any particular aspect, and is well worth the price.

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